

Ohio Invasive Plant Assessment Protocol

Botanical Name: *Plantago major*
 Common Name: Broad Leaf Plantain Step I Outcome: **Continue**
 Family Name: Plantaginaceae Step II Score: **23**
 Assessment conducted by: OIPC Team Step II Outcome: **Not Known to be Invasive**

Score Notes References

Step I	<i>Directions: Place an "X" in the Score column next to the selected answer to each of the four questions.</i>				
	1. Is this plant known to occur in the state and listed as "noxious" on any federal or Ohio Department of Agriculture plant list?	Yes. <i>Place on invasive plant list, no further investigation needed. STOP</i> No. <i>Continue on to question 2.</i>	<input type="checkbox"/> <input checked="" type="checkbox"/>		
	2. Has this plant demonstrated widespread dispersion and establishment (i.e. high numbers of individuals forming dense stands) in natural areas across two or more regions in Ohio?^a	Yes. <i>Place on invasive plant list, no further investigation needed. STOP</i> No. <i>Continue on to question 3.</i>	<input type="checkbox"/> <input checked="" type="checkbox"/>	Is present in numerous counties in all 5 regions, but no abundance data.	1,2
	3. Does this plant form self-replicating populations outside of cultivation in Ohio and is it documented to alter the composition, structure, or normal processes or functions of a natural ecosystem?	Yes No Unknown	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Plant has self-replicated populations but no info on ecosystem effects (if any).	1,2
	4. Is the plant listed as invasive in an adjoining state or a nearby state east of the Mississippi within the USDA Plant Hardiness zones 5-6?^{b,c}	Yes No Unknown	<input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	Not labeled "invasive" in IN,MI, or PA	3,4,5,6
	<i>If the answer was yes for both questions 3 and 4, the plant is placed on the invasive plant list and no further research is needed. Stop here. If the answer is no for both questions 3 and 4, the plant is not considered invasive and no further investigation is warranted. Otherwise, proceed to Step II.</i>				
	Step II: Invasion Status				
	<i>Directions: Place the appropriate numerical score (or "U") in the Score column next to the selected answer to each of these 18 questions.</i>				
	1. Current Invasion in Ohio - plant is not found in natural areas (0 pts.) - plant is found in natural areas but only because it persist from previous planting in that location (e.g. old home sites) (0 pts.) - plant is only expanding from sites of previous planting (1 pt.) - plant occurs in natural areas away from site of planting (3 pts.) - Information unknown (U)		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	0	2,10
	2. State Distribution^a - plant is not naturalized in any region of Ohio (0 pts.) - plant is naturalized in only one region in Ohio (1 pt.)		<input type="checkbox"/> <input type="checkbox"/>		

- plant is naturalized in two regions in Ohio (2 pts.)
- plant is naturalized in three regions in Ohio (3 pts.)
- plant is naturalized in four regions in Ohio (4 pts.)
- plant is naturalized in five regions in Ohio (5 pts.)
- Information unknown (U)

5

1,2

3. Regional/US Distribution

- plant is not considered to be a problem in any other state (0 pts.)
- plant has been reported as a widespread problem in another non-neighboring state within the USDA Plant Hardiness Zones 5-6 (1 pt.)
- plant has been reported to be a widespread problem in 1-2 adjoining states (3 pts.)
- plant has been reported to be a widespread problem in 3 or more adjoining states (5 pts.)
- plant has been reported to be a widespread problem in similar habitat outside the US (1 pt.)
- Information unknown (U)

0

Plant is considered a lawn weed across the country but not considered a widespread problem (hence no 5 pt. answer).

2,8,9,10

Step II: Biological Characters

4. Vegetative Reproduction

- no vegetative reproduction (0 pts.)
- reproduces readily within the original site (1 pt.)
- has runners or spreading rhizomes that root easily (3 pts.)
- fragments easily and fragments can be easily dispersed (4 pts.)
- has runners or spreading rhizomes that root easily AND fragments easily and fragments can be easily dispersed (5 pts.)
- Information unknown (U)

0

Can reproduce by root fragments, but the root does not fragment often or easily.

2,10

5. Sexual Reproduction

- no sexual reproduction (0 pts.)
- infrequent sexual reproduction (1 pt.)
- frequent sexual reproduction, but high variation among years in seed production (3 pts.)
- frequent sexual reproduction (one or more events per year) (5 pts.)
- Information unknown (U)

u

One long event per year, but information on seed production variation was not found, so default score is 3.

2,10

6. Number of Viable Seeds or Propagules per Plant

- few (0-10) (1 pt.)
- moderate (11-1,000) (3 pts.)
- prolific (>1,000) (5 pts.)

5

Average of 565 (10), but can produce up to 14,000 seeds/year (2); variation in these numbers indicates the 3 pt. answer is conservative, but probably more appropriate.

2,10

- Information unknown (U)

7. Flowering Period

- one month or less per year (0 pts.)
- two months (1 pt.)
- three to five months (2 pts.)
- longer than five months (3 pts.)
- Information unknown (U)

2

June-Sept (2)

2,10

Step II

8. Dispersal Ability

- low potential for long-distance seed/propagule dispersal (>1km) (0 pts.)
- medium potential for long-distance seed/propagule dispersal (3 pts.)
- high potential for long-distance seed/propagule dispersal (5 pts.)

5

Seeds dispersed by wind and birds. When wet, seed becomes sticky and will adhere to animals, tires, etc.; 11=>deer were important dispersal agents in the UK.

2,10,11

- Information unknown (U)

9. Generation Time

- long juvenile period (>5 or more years for trees, 3 or more years for other growth forms) (0 pts.)
- short juvenile period (<5 years for trees, <3 years for other forms) (3 pts.)
- Information unknown (U)

3

10

10. Establishment

- unable to invade natural areas (0 pts.)
- can only colonize certain habitat stages (e.g. early successional habitats) (1 pt.)
- aggressively colonizes and establishes in edge habitats (3 pts.)
- aggressively colonizes and establishes in intact and healthy natural areas (6 pts.)
- Information unknown (U)

1

Can quickly colonize disturbed areas.

10

Step II: Ecological Importance

11. Impact on Ecosystem Processes

- no known effect on ecosystem-level processes (0 pts.)
- moderate effects on ecosystem-level processes (e.g., changes in nutrient cycling)(3 pts.)
- causes long-term, substantial alterations in the ecosystem (e.g., changing fire regime of an area, changing hydrology of wetlands) (6 pts.)

0

no evidence

12. Impact on Rare Organisms

- no known negative impact on Ohio State-listed or federal-listed plants or animals (0 pts.)
- negatively impacts listed species, such as through displacement or interbreeding (3 pts.)

0

no evidence

13. Impact on Native Animals

- no known negative impact on animals (0 pts.)
- documented direct or indirect negative effects on animal taxa (3 pts.)

0

no evidence

14. Impact on Native Plants

- no known negative effects on native plants (0 pts.)
- negatively impacts some native plants (increasing their mortality and/or recruitment of certain taxa) (3 pts.)
- impacts native plants to such an extent that community structure is greatly altered (6 pts.)

0

no evidence

15. Hybridization

- no known instances of hybridization with other plant species (0 pts.)
- can hybridize with native Ohio plants or commercially-available species, but seeds are inviable (1 pt.)
- can hybridize with native Ohio plants or commercially-available species, producing viable seed (3 pts.)

0

10

16. Population Density

- occurs only as small, sporadic populations or individuals (1 pt.)
- typically forms small, monospecific patches (3 pts.)
- is a dominant plant in area where population occurs (absolute cover 15-50%) (4 pts.)
- forms an extensive, monospecific stand (absolute cover >50%) (5 pts.)

1

10

17. Role in Succession in Natural Areas

- successional information is unknown (0 pts.)
- is an early successional species that temporarily invades a disturbed site but does not persist as the site matures (0 pts.)
- readily invades disturbed sites and persists, but does not interfere with succession (1 pt.)
- readily invades disturbed sites, persists and interferes with succession of native plants (4 pts.)

0

Plant readily invades disturbed habitats, but its role in succession is unclear.

10

18. Number of Habitats Invaded

Forestlands: Floodplain forest, hemlock-hardwood forest, mixed mesophytic forest, beech-maple forest, oak-maple forest, oak-hickory forest.

Grasslands: Alvar*, beach-dune community*, bur oak savanna*, slough-grass-bluejoint prairie*, sand barren*, big bluestem prairie, little bluestem prairie

Wetlands: Bog*, fen*, twigrush-wiregrass wet prairie*, marsh, buttonbush swamp, mixed shrub swamp, hemlock-hardwood swamp*, maple-ash-oak

* Considered a rare plant community in Ohio by ODW's Biodiversity Database Program.

+ = xeric limestone prairies or cedar glades and post oak openings are unique to the Interior Low Plateau Region of Adams, Highland and Pike counties,

- not found in any natural habitats in Ohio (0 pts.)
- only found in 1 broad category (1 pt.)
- found in 2 broad categories or 2 rare habitat types (3 pts.)
- found in 3 broad categories or 3 rare habitat types (4 pts.)
- found in 4 or more rare habitat types (5 pts.)

1

10

Total Score:

23

Number of Unknowns:

1

Outcome:

Not Known to be Invasive

Total Points	Assessment Decision
4 or more U	Insufficient Data
0-34	Not Known to be Invasive
35-44	Pending Further Review
45-80	Invasive